



# en lighten

THE BIMONTHLY NEWSLETTER OF THE DAYLIGHTING COLLABORATIVE

[www.daylighting.org](http://www.daylighting.org)

volume 1, issue 2 • february 2008



DAYLIGHTING  
collaborative®

light every building using the sky

Thank you to the Sponsors who support the Daylighting Collaborative's mission of lighting every building using the sky:

#### PLATINUM

We Energies

#### GOLD

Draper, Inc.  
WattStopper

#### SILVER

HUVCO Daylighting Solutions  
Kalwall Corporation  
Lighting Analysts and AGI32  
Major Industries, Inc.  
Solatube

#### BRONZE

Alliant Energy  
DUO-GARD Industries Inc.  
Madison Gas & Electric  
Pella Windows & Doors Verhalen, Inc.  
Xcel Energy

## DIGITAL MODELING AND DAYLIGHTING DESIGN

Daylighting is becoming a central design tenet of sustainable architecture and with its rise comes the need for tools that make it easier to achieve effective and appropriate daylighting designs. In the past, designers have relied on physical tools such as heliodons, sun angle calculators, sun charts and solar geometry calculators to simulate daylighting conditions in their buildings. The arrival of digital modeling tools streamlined this process, and the latest generation offers designers electronic tools that can accommodate many different interactions.

Controlling the quantity and quality of daylight is essential to creating a building that provides the light needed without increasing the cooling load. Digital modeling can answer questions such as:

- How much daylight is available?
- Does the design address problems of glare?
- What is the impact of the time of day and season of the year on the daylight space?
- What is the best position of the building on the lot?
- What is the impact of the surrounding terrain and other buildings on the daylighting design?

Not only does digital modeling account for many different interactions, it is parametric—when you change one element of the design the resulting effects on other design elements are automatically changed.

There are many daylight modeling tools available for designers to use. Selecting the appropriate one depends on the design need:

- Will it interface with an energy model?
- Does the design need to address the interaction of natural light and electric light?
- Will the design use toplighting or sidelighting strategies only, or a combination?
- Are controls incorporated in the design?

*continued on page 2*

## Did you know...

A key performance property of glazing is the Solar Heat Gain Coefficient (SHGC) which measures how much heat makes it to the interior of the building through the glass. The SHGC has basically replaced the Shading Coefficient (SC) in the glazing industry.

$$SC = SHGC \times 1.15$$

[www.daylighting.org/glossary.php#su](http://www.daylighting.org/glossary.php#su)

## Join the Daylighting Collaborative

If you'd like access to daylighting design information, new tools, trainings and the "Ask the Expert" forum, please join us by clicking

[www.daylighting.org/join.php](http://www.daylighting.org/join.php).

## Training Update

### Daylighting and the Engineer—What does it mean for HVAC sizing?

Eric Truelove, PE LAP is the Director of Sustainable Design at The Renschler Company and has designed green HVAC systems for multiple LEED, Green Globes and daylit projects. This training is offered free to Daylighting Collaborative members and is AIA and USGBC accredited.

[www.daylighting.org/training\\_online.php](http://www.daylighting.org/training_online.php)

*continued from page 1*

Our Daylighting Collaborative members can find more information on daylight modeling software at: [www.daylighting.org/tools.php](http://www.daylighting.org/tools.php)

If you're not a member of the Daylighting Collaborative, go to [www.daylighting.org](http://www.daylighting.org) to join.

## TECHNOLOGY AND RESEARCH UPDATE

The National Lighting Product Information Program (NLPIP), a program of the Lighting Research Center at Rensselaer Polytechnic Institute, has released "Specifier Reports: Photosensors—Dimming and Switching Systems for Daylight Harvesting."

In order to save energy from reducing electric lighting while natural light is available, control systems incorporating photosensors are crucial. There have been major advances in photosensor technology that make it easier to install and that offer more control options than previous designs. This report presents the testing results observed by NLPIP on these products and provides information to assist the designer in selection, installation and setup of these products.

To view this report at the Lighting Research Center click on the link from the Daylighting Collaborative Books / Articles page:

[www.daylighting.org/resources.php?typeid=5](http://www.daylighting.org/resources.php?typeid=5)

## FYI

Autodesk has announced that it will be discontinuing VIZ recommending users switch to Autodesk 3ds Max Design 2009. Per their February 13, 2008 media release, "...to support immediate needs of ...VIZ customers, new commercial licenses will be available for purchase until August 1, 2008. However, as of March 22, 2008, VIZ subscriptions will no longer be renewed. Standard technical support services will continue...until March 31, 2008."

## WHAT'S NEW ON THE WEBSITE?

The Daylighting Collaborative has partnered with The Energy Center University ([www.ecw.org/university](http://www.ecw.org/university)) to provide on-line trainings. Both hour-long and full day sessions will be made available for credit through this site. *Daylighting for the Engineer* has just been posted and a full day seminar, *Daylighting Commercial Buildings: Learn How to Light Every Building Using the Sky*, given by Dr. Michael Kroelinger, Director of the School of Architecture at UNLV, will be available soon.

Through this partnership, daylighting training held regionally will be made available to all across the country (and internationally). Go to [www.ecw.org/university](http://www.ecw.org/university) to learn about upcoming professional education events including "Lighting Design with Efficiency" presented by Jim Benya of Benya Lighting Design.